

Supplementary Materials

Table 1. Working-memory task related activations, both groups

Extent significance (p)	Intensity significance (Z)	Talairach space Coordinates (mm)	Anatomical description (Brodmann area, BA)
p<0.001	21.96	30 8 51	Right Middle Frontal Gyrus, BA 6
p<0.001	14.25	6 18 40	Right Anterior Cingulate, BA 32
p<0.001	13.41	-42 32 24	Left Middle Frontal Gyrus, BA 46
p<0.001	5.73	-60 10 11	Left Precentral Gyrus, BA 6
p < 0.001	21.70 14.27	50 -48 48 -48 -44 43	Bilateral Inferior Parietal Lobule, BA 40
p < 0.001	15.02 11.02	-34 -58 -31 34 -63 -24	Bilateral Cerebellum
p<0.001 p = 0.003	8.09 5.04	14 -17 8 -16 -21 12	Bilateral Thalamus
p<0.001	6.12	-22 44 -22	Superior Frontal Gyrus, BA 11

Maxima for significantly increased activation in working memory (2-back) minus control (0-back). All reported maxima are significant at the p<0.05, corrected level (Z>4.69).

Table 2. Task-related deactivations, both groups

Extent significance (p)	Intensity significance (Z)	Talairach space Coordinates (mm)	Anatomical description (Brodmann area, BA)
p<0.001 p<0.001	18.07 17.17	2 15 -18 -4 56 -3	Bilateral Medial Frontal Cortex, BA 10, 11, 25
p<0.001 p<0.001	17.10 15.29	-57 -13 -20 61 -5 -23	Bilateral Inferotemporal Areas, BA 21
p<0.001 p<0.001	12.80 12.68	22 -3 -27 -18 -7 -23	Bilateral Uncus, BA 36/28
p < 0.001	17.81	-2 -53 25	Left Posterior Cingulate Gyrus, BA 31
p<0.001 p<0.001	12.63 7.08	-53 -61 21 55 -61 25	Bilateral Superior Temporal Gyrus, BA 39
p < 0.001	10.97 5.24	32 -83 -26 -32 -85 -26	Bilateral Cerebellum
p < 0.001	6.28	-12 -99 -8	Left Occipital Gyrus, BA 17
p < 0.001	6.12	-38 -23 53	Left Postcentral Gyrus, BA 3
p < 0.001	5.65	38 -18 60	Right Precentral Gyrus, BA 4

Maxima for control (0-back) minus task (2-back) contrast, showing deactivations common to the groups of patients and controls (conjunction). See table 1 legend for statistical information.

Table 3. Interaction between task and group , activation greater in controls than patients

Extent significance (p)	Intensity significance (Z)	Talairach space Coordinates (mm)	Anatomical description (Brodmann area, BA)
p<0.001	6.35	44 15 32	Right Dorsolateral Prefrontal Cortex, BA 9
p<0.001	5.28	-24 -67 -27	Left Cerebellum

Maxima for significantly increased activation in controls compared to patients in the task (2-back) minus control (0-back) contrast. See table 1 legend for statistical information.

Table 4. Areas positively correlated with left hippocampal rCBF

Anatomical description	Positive Left Hippocampal Correlation (0-back)		Positive Left Hippocampal Correlation (2-back)	
	Controls (x,y,z)	Patients (x,y,z)	Controls (x,y,z)	Patients (x,y,z)
Left Hippocampal Formation	-24 -12 -13	-26 -16 -13	-24 -12 -13	-24 -14 -13
Left Inferior Frontal Gyrus		-28 30 -15		-30 30 -15
Left Temporal Gyrus		-44 -8 -27		-55 -5 -23
Right Cerebellum		22 -30 -25		
Right Anterior Cingulate				4 25 -8 0 47 -2
Left Putamen				-26 16 7
Subcallosal Gyrus			4 17 -14	
Medial Frontal Gyrus		0 36 -12		2 56 27 0 61 -17

Maxima for areas positively correlated with left hippocampal blood flow intensity values during 0-BACK and 2-BACK. Maxima are reported as mm distance from the

anterior commissure in the coordinate space of the atlas by Talairach and Tournoux ²².

All reported maxima are significant at the $p<0.05$, corrected level ($Z>4.69$), extent threshold of 5 voxels.

Table 5. Areas negatively correlated with left hippocampus rCBF

Anatomical description	Negative Left Hippocampal Correlation (0-back)		Negative Left Hippocampal Correlation (2-back)	
	Controls (x,y,z)	Patients (x,y,z)	Controls (x,y,z)	Patients (x,y,z)
Right Parietal Cortex	55 -37 31	63 -40 35		61 -43 35 0 -60 44
Right Prefrontal Cortex	42 34 20 50 15 32	46 44 16	36 25 28	48 31 28
Right Temporal Gyrus	63 -41 -1			65 -49 -8
Cingulate Gyrus				0 23 36
Cerebellum		57 -53 -21		
Right Inferior Frontal Gyrus	53 14 10	57 14 3 59 9 25		
Right Middle Occipital Gyrus				46 -79 11 53 -68 -10

Maxima for areas negatively correlated with left hippocampal blood flow intensity values during 0-BACK and 2-BACK. See table 4 legend for statistical information.

Table 6 Areas positively correlated with right hippocampal rCBF

Anatomical description	Positive Right Hippocampal Correlation (0-back)		Positive Right Hippocampal Correlation (2-back)	
	Controls (x,y,z)	Patients (x,y,z)	Controls (x,y,z)	Patients (x,y,z)
Right Hippocampal Formation	32 -14 -13	32 -14 -13	32 -14 -13	32 -14 -13
Right Temporal Gyrus		61 -17 -19		59 -22 -22 53 3 -24
Cingulate Gyrus				0 19 -4
Cerebellum				34 -34 -22
Left Medial Frontal Gyrus				-8 26 -28

Maxima for areas positively correlated with right hippocampal blood flow

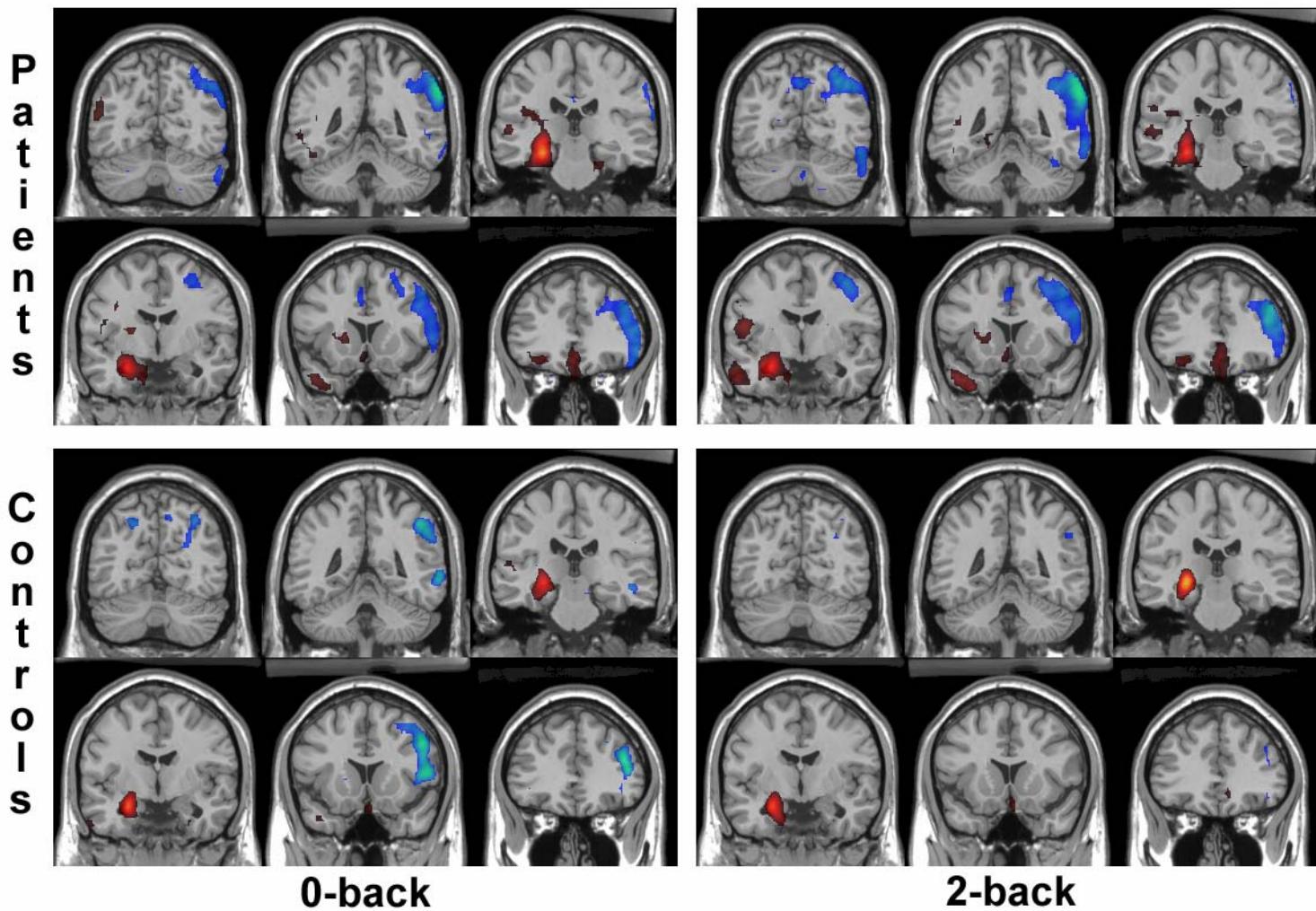
intensity values during 0-BACK and 2-BACK. See table 4 for statistical information.

Table 7. Areas negatively correlated with right hippocampal rCBF

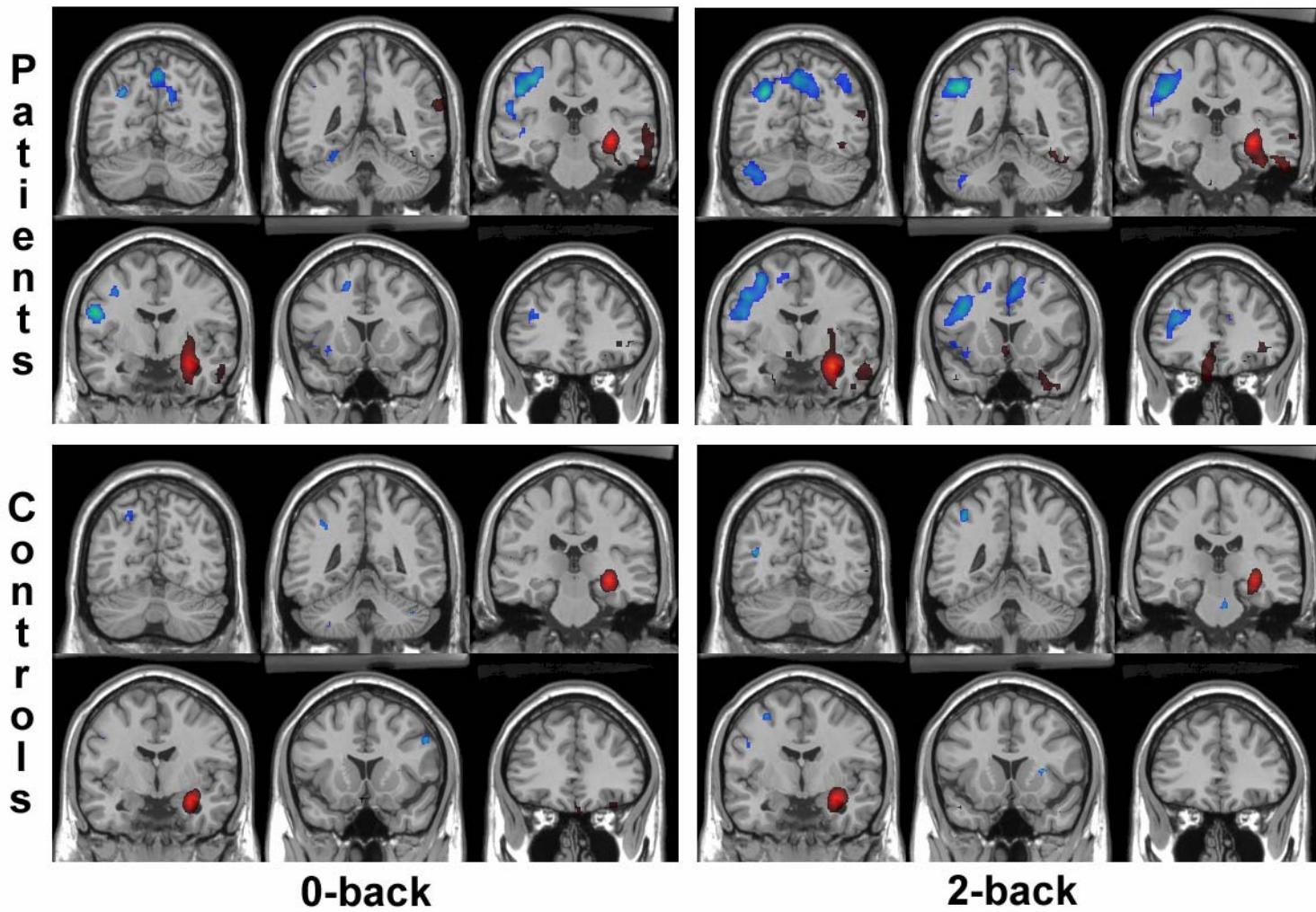
Anatomical description	Negative Right Hippocampal Correlation (0-back)		Negative Right Hippocampal Correlation (2-back)	
	Controls	Patients	Controls	Patients
Left Parietal Cortex		-42 -25 38		-28 -58 36
Left Prefrontal Cortex		-36 4 40		-38 23 28 -32 2 48
Left Temporal Gyrus		-57 -50 6		
Left Inferior Frontal Cortex		-51 0 22		
Right Cingulate Gyrus				6 25 28
Cerebellum				-40 -57 -24 -44 -53 -41
Precuneus				0 -58 47

Maxima for areas negatively correlated with right hippocampal blood flow

intensity values during 2-BACK in schizophrenic patients. See table 4 legend for
statistical information.



Supplementary Figure 1



Supplementary Figure 2

Legends for supplementary figures

Figure 1. ANCOVA maps showing areas which were significantly correlated with left HF rCBF. Positive correlations are shown in red, negative in blue. Maps for comparison subjects in the bottom, for patients in top row, 0-back in left, 2-back in right column. All shown voxels are significant at the $p<0.001$, uncorrected level ($Z=3.09$). Refer to supplementary tables 4-7 for locales surviving multiple comparison correction by activation height.

Figure 2: ANCOVA maps showing areas which were significantly correlated with right HF rCBF. Labeling and statistics as in figure 2.